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Current Challenges facing by Indian farmers

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Abstract

Indian farmers facing a lot of problems in agriculture right from nature's activities to man-made activities including climate change, soil erosion, biodiversity loss, water resource depletion, lack of capital, labour and other inputs etc. Economically, they deal with variable market prices, limited access to credit, and high costs for supplies, which frequently result in debt and financial uncertainty. Climate change intensifies these issues by causing erratic weather patterns, including droughts and floods, that disrupt agricultural cycles. Additionally, inadequate infrastructure and poor irrigation facilities limit crop yields and increase post-harvest losses. Policy-related issues, such as inefficient support systems and delayed subsidies, further strain their resources. Socially, farmers confront low wages and a lack of access to modern technology and training. All together these problems make farming very risky and stop progress toward better and more sustainable farming and farmer well-being in India.

1. Introduction:

Agricultural producers in India continue to face challenges as a result of natural disasters, water scarcity, and unexpected weather condition and fragmentation of land area, high cost of inputs, these risk factors may cause maximum losses to the marginal farmers of India. In the absence of the above-mentioned challenges, farmers suffer from a decline in yield. This results in the worst economic level for the farmers. Due to a lack of resources and small holdings, the majority of our farmers are limited in their ability to handle the challenges they encounter from nature. Failure affects not only their income but also their investments in the future. As a result

of this situation, farmers become indebted, which can reduce their risk burden. On average, 12 million hectares of cropland are affected annually by these calamities, which severely impact yields and the total production of the agriculture industry (Hebsiba *et al*.,2021). Crop insurance is one way for farmers to protect themselves against these risks. There are a number of reasons why this program is so useful; it helps farmers overcome the risks they face, improve their crop yield and also encourages them to invest in larger amounts of money. In this case, the government took on the responsibility of providing better relief to their farmers. As a result, crop failures will be reduced and crop yields will increase. But only half of the farmers are aware of crop insurance schemes, highlighting the urgent need for awareness programs to ensure that all farmers are informed and can protect their livelihoods effectively (Suresh Kumar *et al.,* 2011)

Challenges facing by farmers

Here are some of the major challenges facing by Indian farmers

2.1 Small size of land holdings

In India, over 89.4 percent of agricultural households own less than two hectares of land. This land fragmentation hinders farmers from earning sufficient income, as they cannot mechanize their cultivation, rely on traditional practices like monocropping, and suffer from declining land quality. Consequently, this results in high production costs and lower productivity. The root cause of this problem has begun due to the inheritance law.

2.2 Availability of credit

Capital is a crucial input for improving agricultural production in India. Access to adequate, timely, and affordable credit from financial institutions is vital, particularly for small and marginal farmers. Those facing capital constraints often invest less in advanced technologies, machinery, and equipment, which affects both productivity and produce quality. Despite government efforts to strengthen agricultural credit policies, regional imbalances in credit distribution have persisted over the years.

2.3 Lack of mechanisation in agriculture

Despite the rapid expansion of mechanization in India, most agricultural operations still

rely on manual labour. Mechanization is prevalent in ploughing, harvesting, threshing, and irrigation, covering about 60–70% of these activities. However, machinery for seeding, weeding, and other tasks is adopted by only a few farmers. The challenge of small and fragmented land holdings makes mechanization difficult for small and marginal farmers.

2.4 Inadequate access to crop insurance schemes

In India, farmers face several persistent challenges with crop insurance schemes, including a lack of awareness about the available insurance options, difficulties in assessing and evaluating the extent of crop damage, incomplete coverage of the insurance policies, and issues with non-payment or delayed settlement of claims.

2.5 Volatility of agriculture prices:

Price volatility significantly affects farmers' livelihoods, particularly small and marginal ones who are highly vulnerable to market fluctuations. Sudden price drops can diminish their income and profits, leading to instability and difficulty in farm planning and investment. This uncertainty fosters a cycle of poverty and productivity losses, making it challenging for farmers to make informed decisions about what to grow, how much to produce, and when and where to sell their produce.

2.6 Less spendings on R& D by government:

Limited government spending on research and development (R&D) can adversely affect farmers by leading to lower productivity, higher input costs, and reduced profitability. Insufficient R&D funding means farmers lack access to new technologies, practices, and crop varieties, hindering productivity. Additionally, if government spending on R&D is minimal, farmers may have to invest their own resources to adapt to changing conditions, which increases production costs and makes it harder for them to compete in the marketplace.

2.7 Climate change:

Climate change can alter weather patterns, increasing the frequency and intensity of extreme events such as floods, droughts, and storms. These changes can negatively impact soil fertility, crop yields, and livestock production, leading to reduced productivity and income for

farmers. Climate change is expected to reduce crop yields in India by 4.5–9.0 % (Naresh Kumar *et al*., 2020). Heat waves can cause heat stress in crops, particularly during critical stages like pollination and fruit set, diminishing yields. Additionally, water scarcity in some regions affects irrigation, forcing farmers to rely on unpredictable rain-fed agriculture. Unpredictable rainfall can disrupt various agricultural operations, with unexpected rain during critical growth phases, like harvesting, potentially leading to total crop loss. Flooding from heavy rains can also damage soil and crops. In India, between 2015-16 and 2021-22, approximately 33.9 million hectares of cropped area were severely affected by hydro-meteorological events, including heavy rainfall and floods.

2.8 Water scarcity

Water scarcity severely impacts farmers by reducing irrigation availability, which is crucial for crop growth. Inconsistent rainfall and overexploitation of water resources exacerbate this issue, leading to lower crop yields and increased dependence on unreliable rain-fed agriculture. This scarcity also drives up the cost of water-intensive farming practices, further straining farmers' financial stability.

2.9 Poor infrastructure

Poor infrastructure hampers farmers by limiting access to essential services like efficient storage facilities, reliable transportation, and effective market linkages. This results in significant post-harvest losses and reduced market access, affecting their ability to sell produce at fair prices. Inadequate infrastructure also makes it difficult for farmers to adopt modern technologies and practices, impacting overall productivity.

2.10 Labor shortages

Labor shortages in India impact farmers as they struggle to find sufficient workers for manual tasks due to increasing rural-to-urban migration and the shift towards mechanization. This shortage leads to delays in planting, maintaining, and harvesting crops, which affects productivity and yields. Consequently, farmers face higher labor costs and operational inefficiencies, further straining their financial resources.

3. Conclusion:

Indian farmers face a complex array of challenges, including small land holdings, limited access to credit and mechanization, inadequate crop insurance, price volatility, insufficient government investment in research and development, and the impacts of climate change. These factors collectively hinder productivity, increase costs, and threaten the economic stability of the agricultural sector. Addressing these issues requires comprehensive and targeted interventions, including enhanced support for smallholders, improved financial and insurance systems, greater mechanization, increased research and development funding, and adaptive strategies for climate resilience. By tackling these challenges head-on, there is potential to improve the livelihoods of farmers and ensure a more stable and productive agricultural industry in India.

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